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ABSTRACT

This is one of a series of units for environmental education developed by the Highline Public Schools. This unit is concerned with the topic of garbage. The eleven lessons explore what garbage is, problems of littering, ways to reduce garbage, and ways to use garbage. The materials were designed to be used with kindergarten pupils, but could be used effectively in lower elementary grades as well. Each lesson includes the concept of the lesson, materials needed, notes to the teacher, procedure, and evaluation activities. In addition, a number of extra activities are suggested. These materials were tried and evaluated; evaluation data may be obtained from the Highline Public Schools. (RH)

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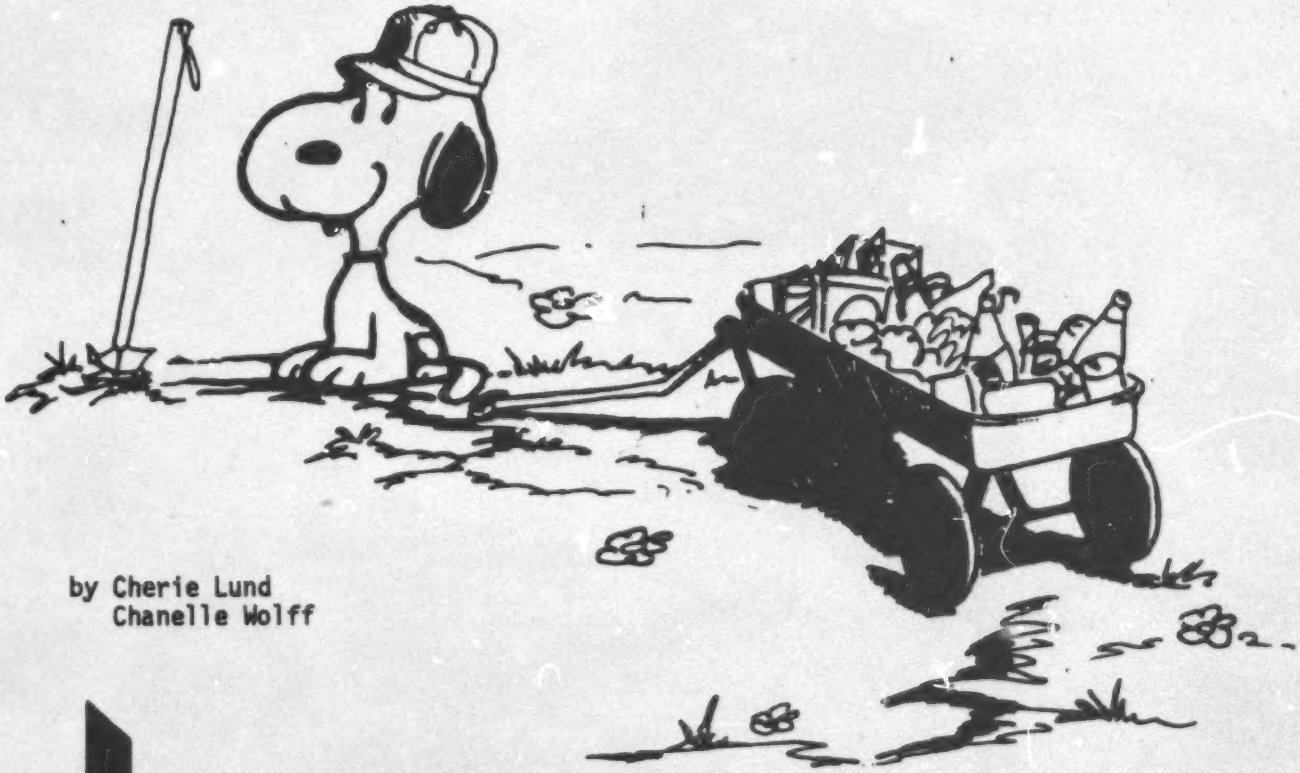
EXPLORATION with GARBAGE



by Cherie Lund
Chanelle Wolff

An Environmental Learning Experience for Kindergarten. One of many "ELE Paks" available for all areas.

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SE 021 444

NATURE KNOWS BEST

PROJECT ECOLOGY TITLE III

The Kids Who Participated in the Pilot Evaluation Program

Michael Avery	Garrett Wilson	Eleanor Salzer
Christopher Babcock	Carl Workman	Paul Walker
John Badger	Christine Black	Susan Winn
Kevin Brown	Regina Colgan	David Antonsen
Jeffrey Coates	Brian Collins	Nicole Aspria
Dale Collins	Tamela Dent	Angela Baker
Sean Coonradt	Shannon Garner	Arlene Baker
Randall Gallagher	Andrea Grande	Rhonda Brown
Richard Graber	Kari Grigsby	William Brown
Johan Keister	Ronald Hoerle	Pamela Cain
Crain Lofthus	Angela Holmboe	Eva Garcia
Derek Ludington	Annette Hrisko	Carmen Grinolds
Gerald Lungberg	Lisa Ipsen	Shanna Hoge
David Markwell	Eddie Jacobson	Robert Holder
Brian Moa	Jared Konkle	Todd Kruse
Jimmy Ollivier	Eric Lodahl	Rona McCulloch
Kirk Petersen	Shawn Lupp	Autumn Mercer
Walter Richmond	Kathleen McColley	Crissy Mitchell
Raymond Qualls	Kelli Myers	Bart Olson
Timothy Reynon	Nancy Nichols	Lisa Sisson
Martin Villamor	Kristen Olson	Leslie Suggett
James Wade	Jennifer Pina	Lyn Thoma

The Readers Who Studied, Critiqued & Offered Suggestions & Ideas for Improvement

Ellen Heffner, Highline School District, Kindergarten
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Parkside Elementary

Highline Public Schools #401

Dr. Don Sayan
Principal

Evaluation Results Regarding This ELE May Be Obtained by Including This Page and a Self Addressed Stamped Envelope To

Highline Public Schools, District 401
Instructional Division
Project ECOLogy ESEA Title III
Bill Guise, Director
15675 Ambaum Blvd. S. W.
Seattle, WA 98166

EVERYTHING IS CONNECTED TO EVERYTHING ELSE

PROJECT ECOLOGY

THERE IS NO SUCH THING AS A FREE LUNCH

PROJECT ECOLOGY TITLE III

EVERYTHING MUST GO SOME WHERE

PROJECT ECOLOGY TITLE III

NOTES TO TEACHER

Just as in the real world where all things are interrelated, one idea or classroom action will inevitably lead to another and these ideas can be found in even the most simple and common objects. The whole world can be explored from any one starting place; why not start with the exploration of garbage.

Things to do before the first lesson:

1. Read the complete study unit.
2. Order films, collect books, flat pictures, and make dittoes.
3. Arrange for custodian to speak to class. Discuss with him these areas you would like him to explore.
   a. What he does (inside and outside the school)
   b. How he takes care of the garbage and litter.
   c. How we could make his job easier.
4. Arrange for school garbage man to speak to class. (Arrangement can be made in the Highline District through Bill Cox). Discuss with him these areas you would like him to explore. (Remind him to wear his work clothes and bring his truck).
   a. Discuss his job.
   b. Tell various ways of garbage disposal.
   c. Answer questions.
   d. Show truck then demonstrate by picking up school garbage recepticle and emptying school trash.
5. If desired make arrangements for a field trip to the garbage dump, transfer station or land fill site.
6. Have some large grocery bags for Lesson 8. Print "LITTER" on the bags.
7. Have walking field trip permission slips.
8. Have certain families set aside one day's worth of "clean" garbage (see lessons 2, 9, 10). Stress care in packaging and handling. Cans should be rinsed - coffee grounds and wet things should be put in plastic bags. Be certain that some seeds, scrapings, carrots, avocados, apples, etc. are included.
9. Have a supply of dirt and small stones for planting. (Lesson 9)
10. You may desire some mothers or fathers to help with Lesson 10.

By its very nature, this unit helps the kindergartener to be aware of his environment and to develop a respect for its natural beauty.

MASTER MATERIAL LIST

Lesson 1 - School waste basket filled with trash
Crayons
Dittoes "Buried in Litter"

Lesson 2 - Accumulation of one day's garbage brought from home by teacher
2 pictures - one of littered area and one of a garbage can or container

Lesson 3 - Permission slip for neighborhood walk
Crayons
12 x 18 newsprint

Lesson 4 - Crayons
Ditto (littering)
Chalk and chalkboard

Lesson 5 - School custodian
12 x 18 manila paper
Crayons

Lesson 6 - Gold foil circles - 3½" diameter
Blue paper "ribbons"
Blue stars
Straight pins
Black marking pen
Paste
School waste paper baskets (4)
Large piece of butcher paper

Lesson 7 - Society for Visual Education (S.V.E.) - Use picture of garbageman with truck "Keeping the City Clean and Beautiful" - Sp 128
School garbage man and truck
Crayons
Manila paper - 12 x 18

Lesson 8 - Crayons
Large grocery bags
Black felt pen
Litter patrol badges

Lesson 9 - Garbage brought from home
Dirt and small stones
Newspapers
Scissors
Microscopes, balances, etc.
Any relevant books

Master Materials List - continued

Lesson 10 - Garbage used in Lesson 9
Mothers or fathers (optional)

Lesson 11 - 12 x 18 manila paper
Crayons
Chalk and chalkboard

MATERIALS FOR EXTRA ACTIVITIES

Lesson 1 - Pictures showing littered areas, (litter in water, along the road, campsites, etc.) and non-littered areas

Lesson 3 - Follow-a-maze ditto

Lesson 4 - Poster paper
Scrap paper
Crayons
Paint
Paste
Scissors

Lesson 7 - Shoe boxes
Cardboard pieces
Small boxes like aspirin or tea boxes
Glue

Lesson 8 - Lunch sacks

BOOK LIST

* Around The House That Jack Built
Roz Abisch Parents' Magazine Press, N.Y.

A Story of Air Pollution and Cars
General Motors Corporation, Detroit Michigan

Compton's Precyclopedia, Vol 7 1973
F. E. Compton Company, Chicago pp. 14-17

ECO, A Handbook of Classroom Ideas to Motivate the Teaching of Elementary Ecology
Charles Hamilton Educational Service Inc., Michigan

The Environmental Revolution Enters a Critical State

Learning - the Magazine for Creative Teaching
March, 1974 pp. 73-76

* Let's Go to a Sanitation Department
Cochrane, Joanna G. P. Putnam's Sons, New York 1958

Book List (continued)

* The Litter Knight
Hoff, Syd — McGraw-Hill, 1970

Litter, Rubbish, Trash
Brodie, Sally — Sun River Press, 1975

* Litterbugs Come in Every Size
Smaridge, Norah — Golden Press 1972

National Wildlife Federation 1973 EQ Index

Peace Pak - "Your World My World", Shirley Peace

Smoke, Olsen, Ib Spang, Coward
McCann & Geoghegan, Inc., New York 1972

Toy Book
Caney, Steve — Steve Caney - 1972 pp. 60-63

Teaching Science with Garbage: An Interdisciplinary Approach to Environmental Education from the points of view of Science, Mathematics and Social Studies by Albert & Vivian Schatz (Rodale Press, 33 E. Minor St., Emmaus, PA 18049; $1.50)

The Trouble with Trash and What Can You Do With Refuse?
Caterpillar Tractor Co. Pamphlet

MAGAZINES & PAMPHLETS

"Ranger Rick's Nature Magazine", National Wildlife Federation

"Fun With Pure-Pak Plasticartons", Ex-Cell-O Corporation, 1969

FILMSTRIP

* "Our Mountains of Trash" - Time Life Education, 1972

FILMS

* Litterbug, Walt Disney, 1962, 8 min., color

* The Neatos

* Used by teacher during unit

LESSON 1

CONCEPT: Introducing the word litter.

NOTE TO THE TEACHER: Definition as in Webster's New Collegiate Dictionary

> Litter - things lying scattered about; scattered rubbish; disorder or untidiness.

Preview the filmstrip and tape beforehand as teacher may want to use own narration with class participation.

MATERIALS:

1. School waste basket filled with trash.
2. Filmstrip: "Our Mountains of Trash"
3. Crayons
4. "Buried in Litter" - dittoed

For extra activities

5. Pictures showing littered areas (litter in water, along the road, campsites, etc.) and non-littered areas

PROCEDURE: Teacher takes wastebasket and throws the paper all over room. Teacher waits for children's response then asks: *What have I done? How does this make our room look? What would our room look like if we never cleaned it up? What do you call a person who throws junk all over?* Children respond litterbug (if they do not respond with litterbug teacher asks, *Have you ever heard of a litterbug? What does a litterbug do?) What do we call this junk that I've thrown all over?* Children respond litter.

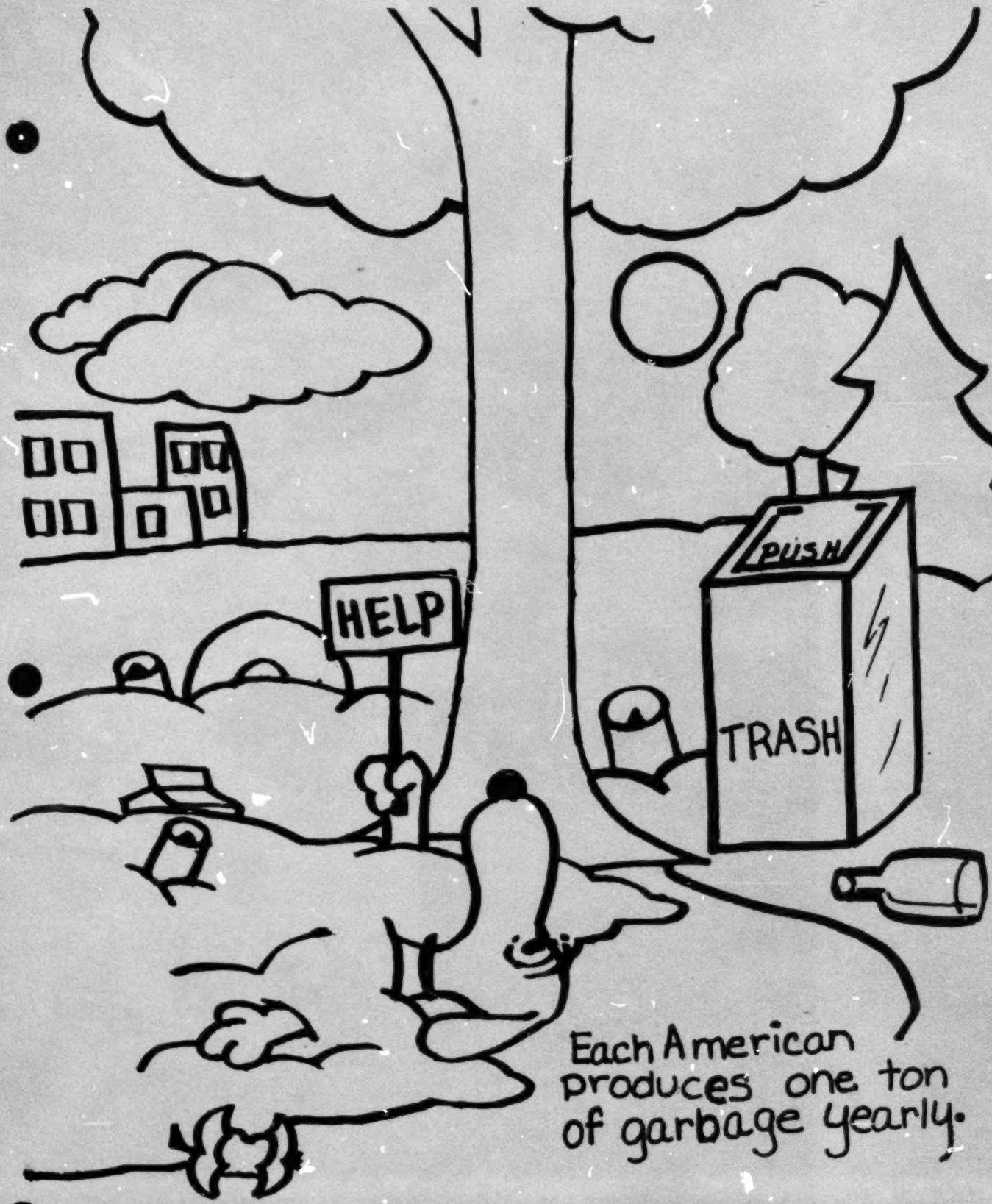
I have a filmstrip to show you - but do you think there's something we should do first? Teacher glances over room - children and teacher clean up room together before proceeding.

Teacher shows filmstrip - open discussion during filmstrip.

After the filmstrip teacher passes out litter coloring sheet.

EVALUATIVE ACTIVITY: While children are coloring teacher asks each child individually, *What is litter?*

SUGGESTED EXTRA ACTIVITIES: Teacher may show contrasting pictures of littered and non-littered areas to stimulate class discussion.



Buried in Litter

LESSON 2

CONCEPT: Introducing the word garbage.

NOTES TO TEACHER: Definition as in Webster's New Collegiate Dictionary

> Garbage: refuse animal or vegetable matter, as from a kitchen or a store; hence, anything worthless or filthy; trash

MATERIALS: Accumulation of one day's garbage brought from home by teacher.
2 pictures - one of littered area, one of a garbage can or container

PROCEDURE: Without any introduction teacher empties garbage on table. *What is this? What are some of the things you see here?* Yesterday we talked about litter. *Is litter garbage?* Children should decide that garbage is garbage when put in its correct place. Garbage becomes litter when not properly disposed of.

I have a poem for you - it goes like this.

There were some pieces of paper
Lying on the land
I picked up all that litter
And put it in my hand

I took the litter with me
Til I found a garbage can
My litter then was garbage
Ready for the garbage man.

Would you like to learn this too?

Teacher teaches poem to class. Teacher may wish to use creative dramatics with this poem.

EVALUATIVE ACTIVITY: Show each child the two pictures. *Tell me which is a picture of litter and which is a picture of garbage.*

EXTRA ACTIVITY: Sort garbage according to glass, metal, paper and food.
You may wish to compare the garbage brought from home with what the class garbage can (wastebasket) contains. Are there differences? Why? (Lead to conclusion that garbage depends on the activities of people and the material they use.)

LESSON 3

CONCEPT: Litter and garbage are found throughout our environment.

MATERIALS:
Permission slip for neighborhood walk
Film: Litterbug - Walt Disney, 1962, 8 min. color
12 x 18 newsprint
crayons

PROCEDURE:

The last couple of days we've been talking about garbage and litter. Who can tell me what garbage is? Who can tell me what litter is? Where are some places we might find garbage? Children respond - home, school, kitchen, restaurants, cafeterias, campsites, etc. *Where are some places we might fine litter?* Children respond - neighborhood, water, school grounds, parks.

Teacher, through suggestions and discussions, guides children to discover that litter is found everywhere.

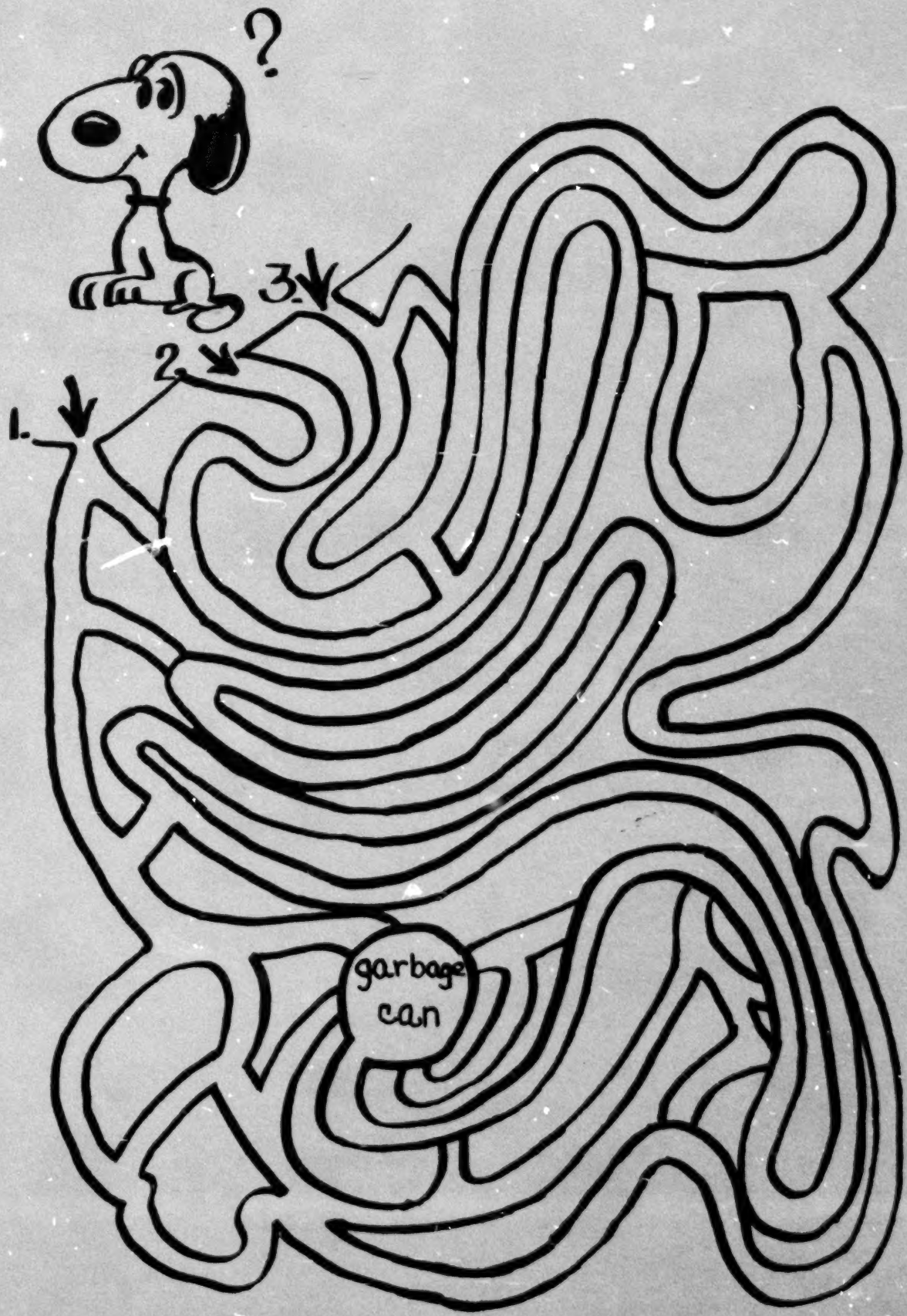
Let's get our coats on and take a walk to see how much litter and garbage we can find.

Teacher and children walk to school kitchen; around school grounds and through adjoining neighborhood. (No litter is picked up at this time! Observation only)

In the classroom teacher shows film: Litterbug followed by coloring a picture of what they saw on the walk.

EVALUATIVE ACTIVITY: While children are coloring teacher takes a random sample and asks each child *Where is garbage found? Where is litter found?*

SUGGESTED EXTRA ACTIVITY: Follow-a-maze picture


?
3.
2
1.
garbage
can

Littering

LESSON 4

CONCEPT: People create litter - litter changes our environment.

MATERIALS: Crayons
Dittoed sheet
Chalk and chalkboard

Materials for extra activities
Poster paper
Scrap paper
Crayons - paint
Paste - scissors

Litterbugs Come in Every Size

PROCEDURE: *Yesterday we took a walk around the neighborhood and school grounds - what did we find?* Children respond litter, paper, etc.

Who left all the litter there? Responses are varied.
What shall we do about this litter? Response: pick it up.

I have a new song for you - listen to it - then I'll teach it to you.
Teacher sings song - teaches chorus first, then verses.

(This song is sung to the tune This Land is Your Land)

Verse I

As I was walking
Around my neighborhood
I saw some litter
It didn't look good
Some people don't care
They'd better beware....'Cuz
This land was made for you and me.

Chorus

This land is your land
This land is my land
We'll pick up litter
To make it better
We'll work together
In all kinds of weather...Cuz
This land was made for you and me.

Verse 2

Glass, paper, can lids
Left by some dumb kids
I cleaned up the place
At a very fast pace
Litter should not be seen
Let's keep our earth clean...Cuz
This land was made for you and me.

Repeat Chorus

After teaching the song teacher says *I have a color sheet for you showing some kids (children) littering. It this a good thing?*
Children: NO!!
Then let's take a red crayon and write a big NO near the bottom of the page. (Teacher demonstrates on chalk board).

SUGGESTED EXTRA ACTIVITIES:

Make anti-litter posters for the school.

Read Litterbugs Come in Every Size

LESSON 5

CONCEPT: There are certain people who work to help keep our environment clean.

MATERIALS: Resource person - school custodian
Crayons
12 x 18 manila paper

PROCEDURE: *Do you know who keeps our school clean?* Children may name him by name or may say janitor or custodian. Teacher refers to him as Mr. _____ or custodian.

What are some of the things you've seen the custodian do? Responses are varied.

I'd like you to meet Mr. _____, our custodian, he's here to talk to you and answer your questions.

Custodian talks with class about prearranged topics.

After custodian leaves teacher reviews song taught in lesson 4.

We should thank the custodian for coming. He told us of all the things he does here. Each of you pick one of his jobs and color a picture of the custodian doing that job. Then we'll put your pictures together and give them to him. (Teacher binds pictures and children choose a title for the "book" such as OUR BUSY CUSTODIAN).

EVALUATIVE ACTIVITY: Teacher uses the children's pictures to see if they have adequate knowledge of the custodian's work.

SUGGESTED EXTRA ACTIVITY: Children discuss their pictures in front of class.

**Before children go home ask them to bring a large grocery bag to school.

LESSON 6

CONCEPT: Each of us needs to take care of our environment.

MATERIALS:
Gold foil circles (approximately 3½" diameter)
Blue paper "ribbons"
Blue stars
Straight pins
Black marking pen
Paste
School wastepaper baskets (4)
Butcher paper

PROCEDURE: *Yesterday the custodian told us we could make his job easier by helping to keep the inside and the outside of the school clean. How should we go about doing this?* Children may respond many ways - one of these should be "clean up litter".

Let's form a litter patrol to help our custodian. To show everybody we're part of the litter patrol let's make a badge like this. (Teacher holds up badge).

Work period.

As children finish badges teacher pins them on (depending upon the weather, teacher may wish to pin badges on coats.)

Teacher divides class into four patrols - each patrol having a captain who is in charge of a wastepaper basket. (You may wish to have upper grade students be "captains").

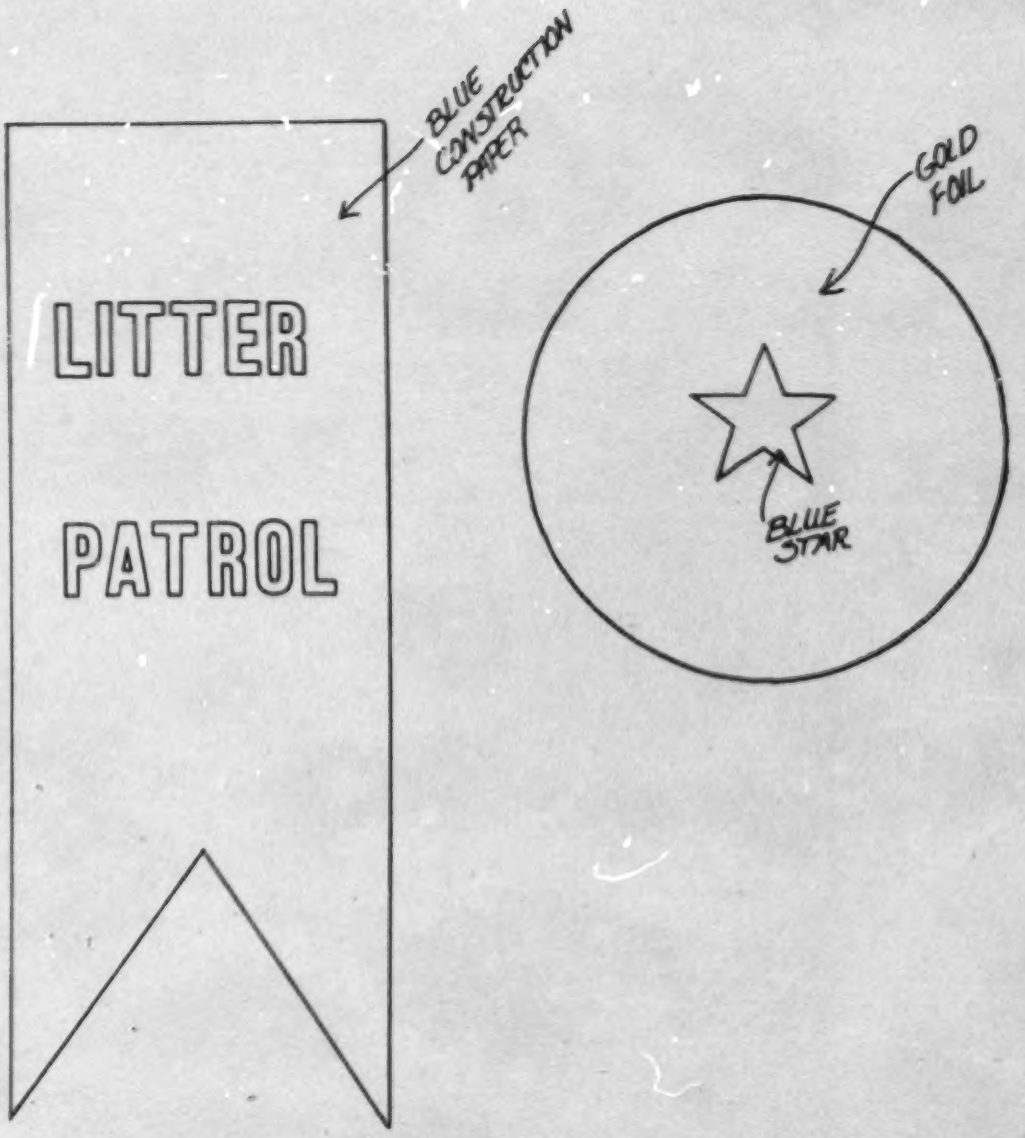
Children and teacher proceed outdoors to clean up the playground and school grounds. Prior to coming in children and teacher empty wastebaskets into large trash receptacle (the one the garbage man picks up). Instead of emptying the "litter" you may wish to make a giant collage of as much of the litter as possible - paste litter to the butcher paper - label "LOST & FOUND - IS THIS YOURS?" and hang in the hall for all to see.

EVALUATIVE ACTIVITY: Observation of children on litter patrol.

SUGGESTED EXTRA ACTIVITY:
1. Make litter patrol badges for first graders or family members.
2. Creative Dramatics: litterbug vs. litter patrol
3. Review song and/or poem
4. Teach the following poem.

Some people make us very mad!
They throw garbage in the street.
Let's go on the litter patrol
And make things really neat.

NOTE TO TEACHER: Save litter patrol badges - children will wear them home after Lesson 8.


BLUE CONSTRUCTION PAPER
LITTER
PATROL
GOLD FOIL
BLUE STAR

LESSON 7

CONCEPT:

1. There are certain people who work to help keep our environment clean.
2. People use various ways to dispose of garbage.

MATERIALS:

(S.V.E.) Society for Visual Education, Inc.
"Keeping the City Clean & Beautiful" - SP128
Flat pictures: Refuse Collection and City Refuse Incinerator
Resource person - school garbage man and his truck
Crayons and manila paper, 12 x 18

Materials for extra activities
Let's Go to a Sanitation Department, Cochrane, Joanna, G. P. Putnam's Sons, N.Y. 1958
For garbage trucks
shoe boxes
cardboard pieces
small boxes like aspirin or tea boxes
glue

PROCEDURE:

Teacher shows pictures to class and holds a short discussion about the garbage man and garbage truck. Teacher says, *Today I have a surprise for you. I've invited the man who picks up our school garbage. This is Mr. _____ and he's going to tell you about his job. When he's finished you may ask him questions.*

Garbage man explains to class his job and other prearranged topics (see Notes to the Teacher).

Let's draw some pictures for the garbage man. Each of you draw something you have just seen and we'll mail him our pictures. (Teacher may wish to only mail some of the pictures and display others in room.)

EVALUATIVE ACTIVITY:

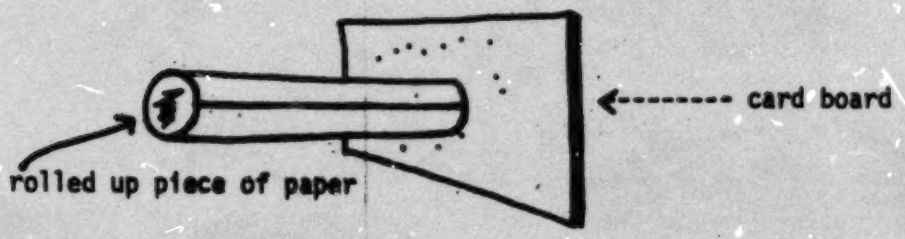
1. Teacher may use children's pictures to see if they have adequate knowledge of the garbage man's work.
2. While children are coloring teacher may ask each child individually, *What are some of the ways that garbage is disposed of?*

SUGGESTED EXTRA ACTIVITIES:

1. Field trip to a collection point, land fill site or a transfer station.
2. Read Let's Go To a Sanitation Department, Cochrane, Joanna, G. P. Putnam's Sons, N.Y., 1958.
3. Make model of garbage truck. Cut the cardboard to fit inside of the shoe box. Glue a rolled up piece of paper and tape it to the center of the cardboard at a 90° angle.

   Cut a hole in the center of one end of the box. Place the cardboard piece into the shoe box and insert the rolled up piece of paper into

the hole. As the child pushes the cylinder, the cardboard makes the space on one side of the box smaller, thus "squashing" anything in that area. Glue smaller boxes to the end of the shoe box to form the cab of the truck. Add paper and paint to make it look like a garbage truck. Tinker toys wheels or spools may be added.



Remind children to bring a large grocery bag to school.

LESSON 8

CONCEPT: Each of us needs to take care of our environment.

MATERIALS:
Crayons
Large grocery bags (teacher has each bag labeled with child's name and has LITTER BAG printed in large letters on each bag)
Litter patrol badges
The Litter Knight, Hoff, Syd, McGraw-Hill, 1970

Materials for extra activities
Lunch sacks - enough for each child

PROCEDURE:
Remember when we picked up litter off the school grounds? What would happen if no one picked up litter off the school grounds? Plants wouldn't grow - you might trip on trash - etc.

Teacher directs discussion toward litter on sidewalks and in their neighborhood. *Who takes care of that litter?* Children decide they will take care of litter in neighborhood.

Let's be on litter patrol as we walk home today (even if children are bussed they usually have some distance to walk) *and really clean up our neighborhood. When we cleaned up the school grounds we put our litter into wastepaper baskets. Since we can't take the wastepaper baskets home - let's use the grocery bags to make litter bags. I have written LITTER BAG* (teacher shows) *on each of your sacks. Take them to your tables and decorate them as you wish.*

Before children go home, pin on their Litter Patrol badges and read The Litter Knight. Then, discuss "safety" (such as not going into the street to pick up litter, not picking up broken glass, etc.) while picking up litter. Sing the litter song as you leave.

EVALUATIVE ACTIVITY: Observation and response from parents.

EXTRA ACTIVITIES:
1. Using lunch sacks - make an additional litter bag for each family's car.
2. Discuss possible future uses for litter bag.
3. Teach the following poem.

   Litter is not very pretty
   It makes the earth look very dirty
   Let's pick up paper and glass
   Come on kids, let's do it fast!

4. You may wish to precede Lesson 9 with a discussion about their Litter Patrol and what they found.

NOTE TO TEACHER: Call parents you have selected to bring garbage - tomorrow is the day!

LESSON 9

CONCEPT: People can find ways to use garbage.

MATERIALS:
A day's collection of garbage from different homes (see Notes to Teacher)
Dirt and small stones
Newspapers
Scissors
Microscopes, balances, etc.
Any relevant books

PROCEDURE: Children can bring their garbage to a large, cleared area - a worktable or group of desks pushed together, or the floor. Have newspapers underneath and relevant books, scissors, microscopes, balances, etc., nearby.

Stress safety before allowing the children to explore, share and react to the items in their own way; many interesting topics will arise. Be ready, however, to abandon ideas when they do not catch the interest and enthusiasm of the children and to let them take the projects off in directions that perhaps were not expected.

After this exciting beginning teacher directs children to go through garbage and put aside anything that could grow (plant whatever they put aside - let them discover if it grows or not) and all containers.

Growing Garbage

Children can collect from the garbage seeds, scrapings and other fruit and vegetable waste. Attractive planters can be made by decorating empty cans, jars and plastic containers. Seeds should be sprouted in glass containers without dirt but with wet paper towels or a damp sponge so children can see the roots forming. The children can plant things in a well-drained soil mixture. They can experiment with the scrapings to see which, if any, will produce growth. Why did some not grow?

Grapefruit, orange, lemon or tangerine seeds should be planted. They should be in rich soil, kept damp and in good light, but out of direct rays of the sun. Be sure to place at least a half inch of small stones in the bottom of each planter and make drain holes to allow excess water to drain out.

The top of a carrot can be planted in moist sand with only the upper part exposed. This develops into an attractive fernlike plant. With any vegetables, transplanting to an outdoor garden in the spring will be fun and interesting. Pineapple tops can be planted by cutting off the top green leaves with about one inch of the solid fruit portion attached (this is usually the way they are in the garbage). Place the base part in water with the green top exposed. When roots develop, transplant to a pot with soil and cover with a plastic bag for three weeks (the bag will be in the garbage too). A small cactuslike plant will develop, and in 6 to 12 months tiny pineapples should develop. Avocado seeds should be planted pointed end up, with the tip just above the soil. It will take a month or two before it sprouts.

Sweet potatoes, onions, beets, or garlic may be grown by sticking three or four toothpicks around the middle of the vegetable and suspending it in the mouth of a glass jar. Fill the jar with water until the bottom part of the vegetable is covered. Keep in a sunny place.

You may wish to transplant seeds later. Remember an empty egg carton or half-shells of eggs make good planters.

EVALUATIVE ACTIVITY: Teacher observation of class enthusiasm.

SUGGESTED EXTRA ACTIVITIES: Teacher may wish to have a class project of recycling glass, aluminum cans or newspaper. Check your area for nearest recycling center. This is an excellent money raising activity.

NOTE TO TEACHER: You may wish to dry out coffee grounds, bones and fruit peelings for following lesson.

LESSON 10

CONCEPT: People can find ways to use garbage.

MATERIALS: Garbage used yesterday
Mothers or fathers (optional - but necessary for some of the more difficult art projects)

NOTE TO TEACHER: Following is a list of some activities and art ideas that you can do with garbage. Your activities will depend upon what types of garbage you have. You and your class may think of different activities. Here, you may wish to extend this unit. Remember to stress safety.

ACTIVITIES AND PROJECTS WITH GARBAGE

1. Put aside and clean and dry all bones. Try to reconstruct the animal using glue.

2. Mosaics and collages can be made from chips of egg shells, dried coffee grounds, or dried fruit peelings.

3. Egg cartons can be used for making caterpillars (remember to paint them a bright color!) trains, flowers, or anything else within the imagination of the group.

4. Using wasted paper towels from the lavatory or newspaper - one can paper mache. If light globes are in your garbage they make excellent maracas after being paper mached and broken.

5. Bottle caps, beans, small objects make excellent counters.

6. If you can get a glass cutter, the bottles and jars can be converted into a variety of practical and attractive items. Dave Lewis of the Highline School District is a recommended resource person. This could also stimulate interest in glass, glass blowing and glass recycling.

7. There are a variety of musical instruments that can be made from garbage. They are:
   a) coffee can bongos
   b) can lid cymbals (make certain sharp edges are covered with tape)
   c) musical bottles (put different amounts of water into bottles - hit with mallet to produce different sounds.)

8. Use different size lids or cans to teach size descrimination (small, smaller, smallest)

9. Paint empty spools of thread. Glue a 2" piece of straw in the hole. This makes an excellent ring holder for mother.

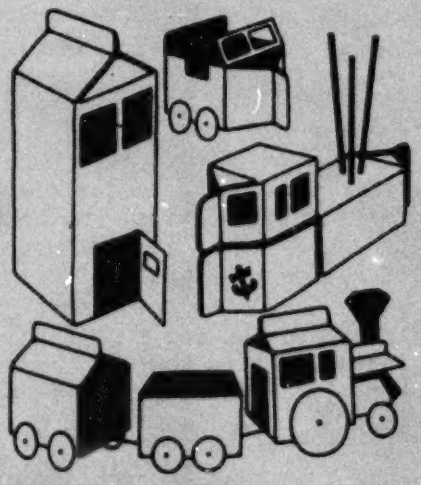
10. If teacher wishes to explore the area of compost, garbage may be buried and dug up at a later date.

11. Try burning some items. What are the differences in residue? Is there anything that will not burn? Why won't it? Is there something that burns, without leaving residue? Where did it go? (Again, pollution, waste, disposing of trash topics can arise.)

12. Many exciting, creative things can be made from milk cartons of all sizes. (Before starting, wash and dry cartons thoroughly.)

A. Half-Pint Project

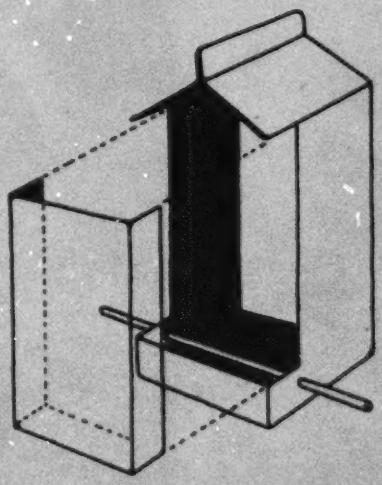
Build a village, boats, trucks or a train from half-pint, 10 oz., pint and quart cartons. Straws make good axles and derricks. Use spools, buttons or milk carton circles for wheels. Just cut openings for windows and doors. Spray with bright colored plastic paints. A cord, knotted at one end and strung through the cars of the train, will keep this pull toy "on the track."



B. Feed the Birds

Children will love to see birds come again and again to this easy-to-make feeder.

A half-gallon carton is a comfortable size. Cut opposite sides of the carton back 1½" from the top corners along the line of the table, then down from the top to 1½" from the bottom. Trim under the gable to make the roof overhang. Milk cartons don't leak, so punch holes in the bottom of the carton to let any rain water drain out. A plastic straw or dowel makes a good perch. Punch a hole in the top and hang from a branch or eave. Or nail directly to a tree or post. Fill the bottom with bird seed and watch the fun.



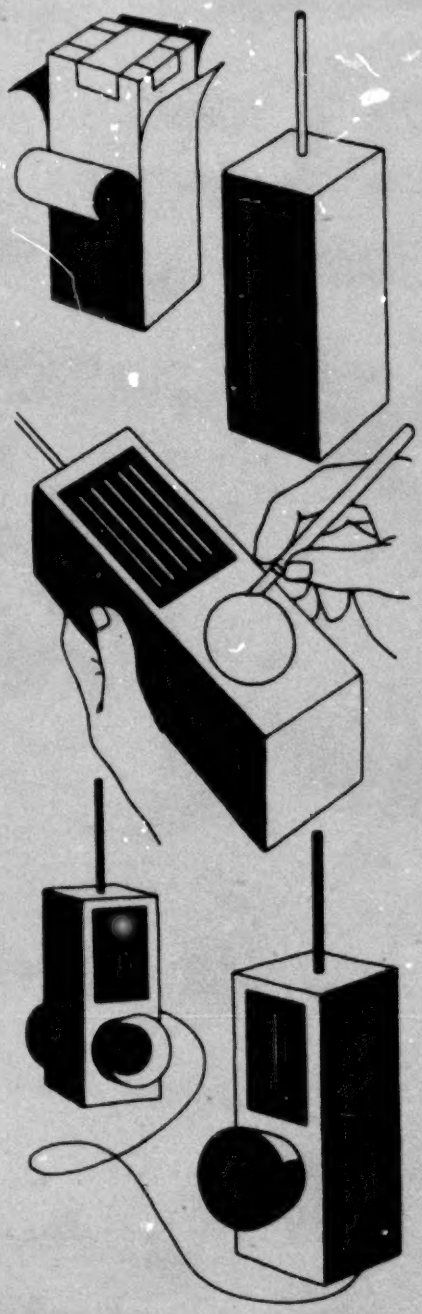
C. A Walkie-Talkie That Really Works

Cut the gables off two quart milk cartons. Cut two square pieces from a third carton to fit the opening and make a flat top for each carton. Seal on four sides with pressure-sensitive tape. Paint or cover with self-sticking paper.

Cut five slits 2½" long, 1/8" wide and ¼" apart. Start 1" from top of carton. This is where the sound comes out. Cut the bottoms out of two small drinking cups, leaving a ¼" edge. These are the mouthpieces. Cut two circles near the bottom of the carton just large enough to hold the cups, leaving about 3/4" of the cup outside the carton.

Tie a knot in one end of a long, long string. Punch a small hole in the back of one carton opposite the mouthpiece just big enough for the string to slide through. Pull the string from the inside to the outside until it reaches the knotted end. Punch the same size hole in the other carton and thread the string from the outside to the inside. Tie a knot in the second end; pull string backwards until it is stopped by the knot.

Insert one cup in each circular hole until it fits snugly. Insert a straw in the top of each carton for an antenna. The string should be slightly taut when sending and receiving.

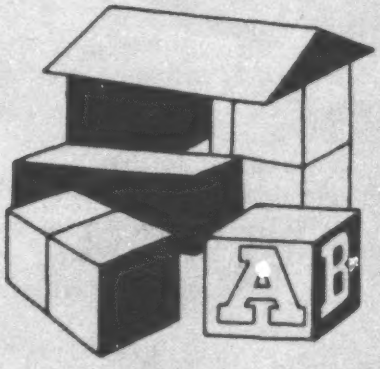


D. An Easter Basket (or maybe a sand pail)

Cut a gallon carton off about 4" from the bottom. Cut a 1" strip from the top section for a handle. At each end, cut a notched section. On opposite sides of the basket portion, cut two slits into which the handle slips and locks. Cover with colored paper and wind ribbon around the handle.

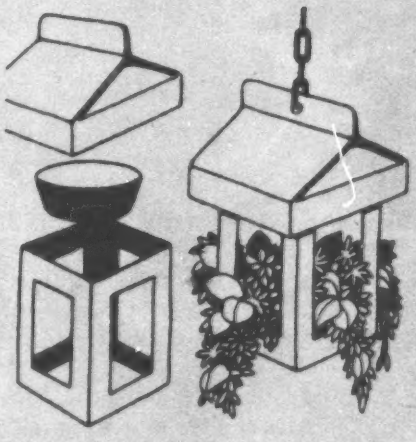
E. Blocks

Use a variety of sizes of cartons. Cut off the gables. From extra cartons, cut flat pieces to fit each end. Seal with tape. Triangular blocks are made from half cartons cut lengthwise. Spray-paint or cover with self-sticking paper. For a small child, before sealing, put a pebble or button or small bell inside.



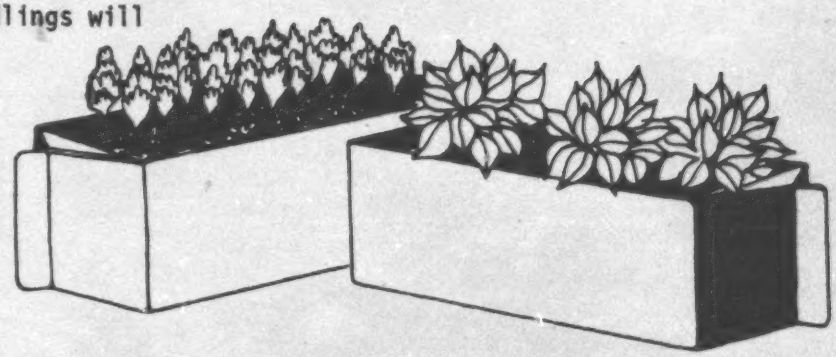
F. Hanging Planter

Cut the top from a half-gallon carton. Cut each corner down 1" from the top and bend back. Cut openings in four sides. For the roof, cut the gable from a gallon carton 3/4" from the gable line. Fit the two pieces together snugly and glue. Use plastic cup for the plant container. Your planter is ready to hang or use as an attractive table decoration.



G. Seed Starters

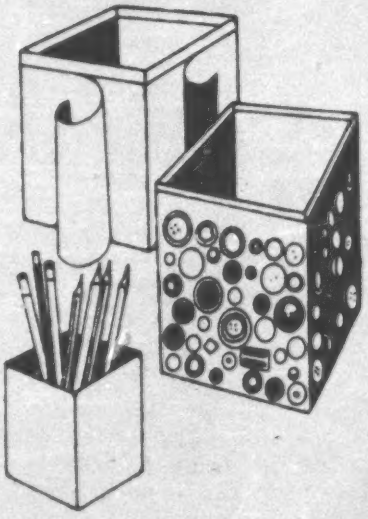
Milk cartons are ideal for starting seeds. Depending on desired size, reseal the gable, cut off the top of one side of a carton. Punch holes in the bottom for drainage. A seed packet taped to the carton will tell you at a glance what the seedlings will be.



H. Containers for Many Uses

Cut any size carton to desired height. Cover the outside with cloth scraps - felt, velveteen, printed cottons are easy to handle. Just overlap and glue. Self-adhesive papers work very well, come in attractive patterns and wipe clean.

What will it be? A pencil holder, a button box, a litter box for the car? Maybe a cache pot for your favorite plant. Turn a carton upside down, cover it with matching wallpaper scraps, and it's a spray can cover for all those aerosols in the kitchen, bath and laundry.



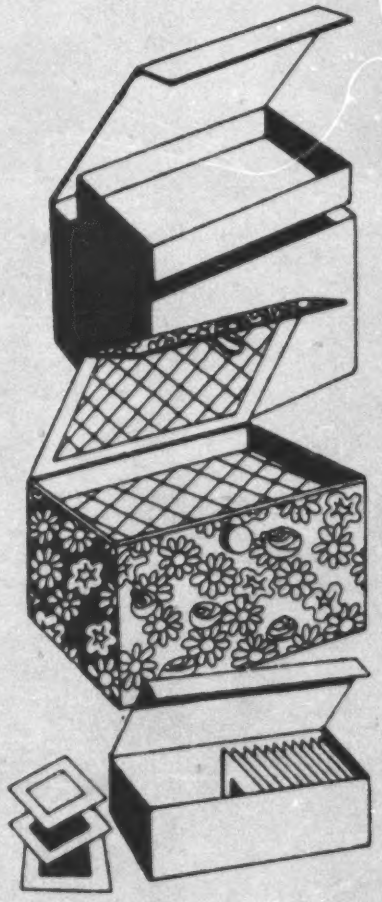
Make a box - a sewing box, a jewelry box, a box for recipes or photographs.

Little girls love things "just like mother's". Here's how to make a sewing box from gallon milk cartons. (Decorate it differently and it's a mad, mod, fun jewelry box with a tray.)

Turn the carton on its side, cut off the gable. Cut and fit the side of another carton to the open end and seal on three sides with tape. Cut down one long side and end leaving one long side attached to make a lid. Cut separate piece 1" wide and as long as the lid. Attach with tape from the underside of the lid. This will make a tuck-in flap.

To make the tray: From an extra carton cut a box-shaped piece, leaving one end, one side and the bottom attached. Cut about 1½" deep or as deep as you want the tray to be. Trim the other long side and one end each about 1/8" so that the finished tray will fit inside the box. Attach two separate strips to enclose the tray. Glue small pieces of wood in the four corners for the tray to rest on. Four spools, one in each corner, make a "secret" compartment at the bottom of the box.

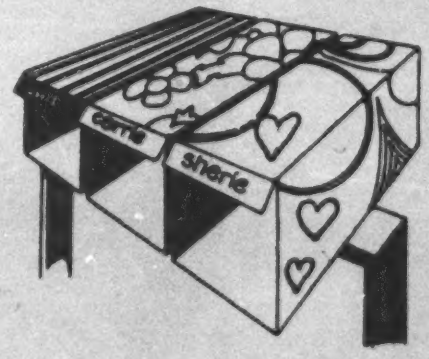
Recipe file, slide or snapshot file: Use a quart carton for 3 x 5 cards or 2 x 2 slides. Use basic sewing box instructions. A half-gallon carton makes an interesting, handy file for snapshots.

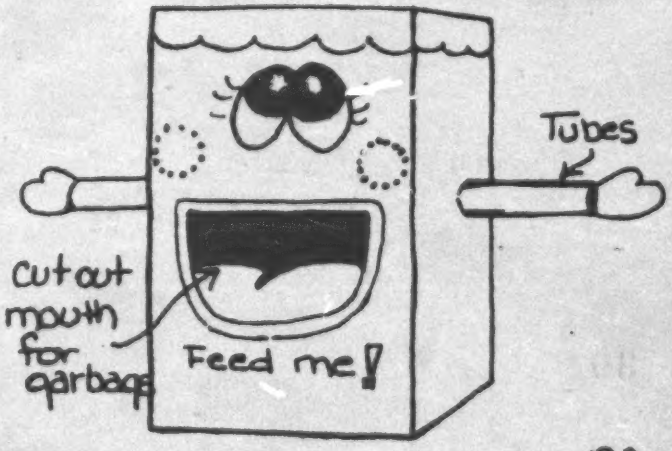


I. Valentine Mail Call!

Everybody likes to get mail, and it's even more fun in your own personal mail box.

Cut the gable from a quart carton leaving a 1½" flap. Cover the decorate. Put names on the flap. Ideal for classrooms for corrected papers, instructions and messages.





J. Your Own Wastebasket

Use large cardboard cartons to make containers for children to use or to put in the hall.

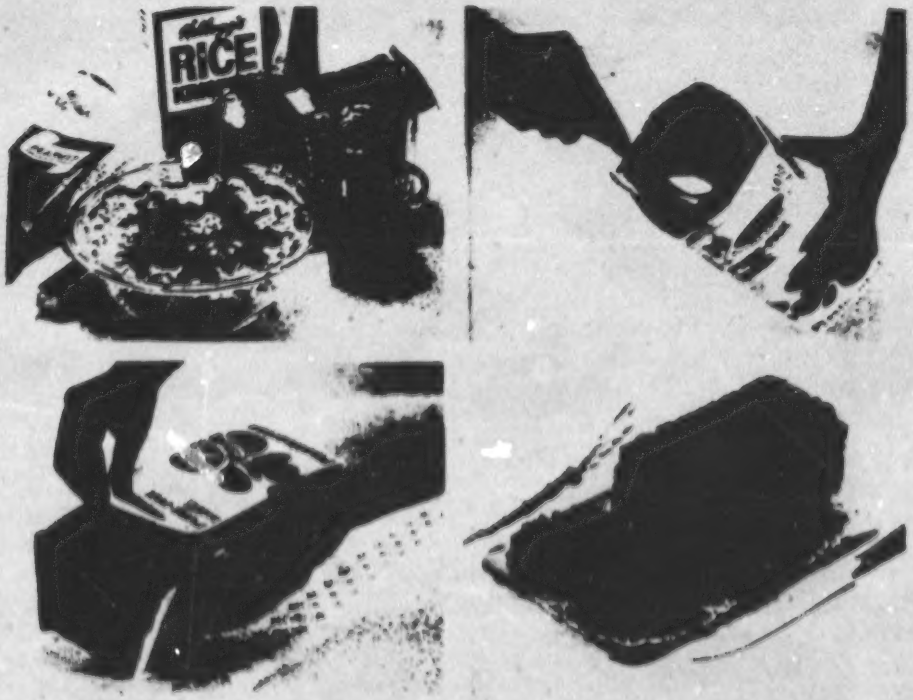
K. Making a Nut Log!

Try something new for your next school party. It's crispy good.
You'll need:

One clean, dry, half-gallon milk carton
½ cup butter or margarine
1 cup (6-oz. package) semi-sweet chocolate morsels
1 10-oz. package miniature marshmallows
1 10-oz. package rice cereal
2 cups each Spanish peanuts and chopped pecans
1 cup raisins
3 cups popped corn

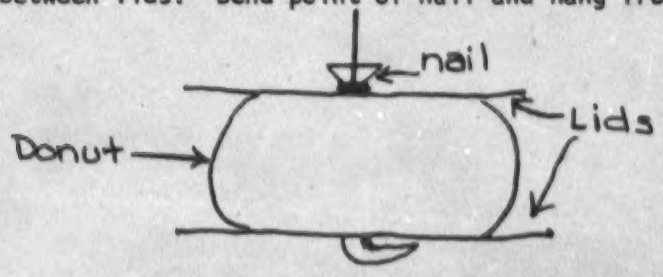
Melt butter, chocolate and marshmallows together in top of a double boiler. Mix remaining ingredients in a large bowl. Pour melted chocalate sauce over the dry ingredients and mix thoroughly.

Pack tightly into carton. Cool in the refrigerator for about an hour. Peel the carton away. Cut and serve. Just watch it disappear.



13. Donut Bird Feeder

Two jar lids about the size of a donut. Use a headed nail 3 inches long. Hammer nail through each lid center. Place donut over nail and between lids. Bend point of nail and hang from nail head.



Whether you choose one or all of these activities to pursue in your classroom, remember that the suggestions being offered are starting points, not goals. Let your children be your guide.

LESSON 11

CONCEPT: Litter and garbage are our responsibility. We need to keep his environment clean.

MATERIALS:
Film: "The Neatos"
Manila paper, 12 x 18
Crayons
Chalk/chalkboard

PROCEDURE: *Today we are going to see a film called The Neatos. See if any of these animals remind you of yourself.* Show film.

After the film, ask *What can you do to keep our earth clean?* Teacher should list responses on the board. Children's responses should show they are aware of litter everywhere, not just in their neighborhood, school grounds, bedroom, etc. They should feel responsible for taking care of litter. They should also be aware that most garbage can be used again in various ways.

Teacher asks: *Why do we want to keep our earth clean?*
Desired response: The earth is ugly when littered but beautiful when clean. Animal and plant life may be endangered.

Why should we reuse garbage?
Response: It's wasteful to throw things away that can be used again. You can save money. It's fun.

EVALUATIVE ACTIVITY: Hand out crayons and paper. *Fold your paper in half, then in half again, so you have four parts. I want you to draw a story on this paper. This will be a story of a scrap of paper you found on the way to school. On this side* (indicate left) *start the story. Draw you when you first see the paper. Then draw what happens next and next and next. The last picture will be on this side.* (indicate right) *When you are finished bring it up to me so I can write about your story.* As you talk with the children about their stories, praise them if they picked up the paper and disposed of it properly in their story.

EXTRA ACTIVITY: Read Around the House that Jack Built, by Abisch, Roz, Parents' Magazine Press, N.Y. 1972

For your convenience the films used in this ELE are listed on this tear out sheet. Simply add the dates required and mail to the Instructional Material Center, ERAC.

Project ECOLogy

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